

Figure 2. Geologic map of the Santa Renia Fields and Beaver Peak 7-1/2-minute quadrangles, Nev., showing greater Beaver Peak area of Pennsylvanian and Permian Strathearn Formation studied in detail (fig. 4), as well as localities of fossils that provide ages of rocks. Santa Renia Fields geology (west half of figure), modified from T.G. Theodore, B.C. Moring, J.K. Cluer, and S.C. Finney (unpub. data, 2001) and Barrick Gold Corp. (unpub. data, 2001); Beaver Peak geology (east half of figure) modified from T.G. Theodore, B.C. Moring, A.K. Armstrong, A.G. Harris, and S.C. Finney (unpub. data, 2001).

Figure 2—cont'd.

DESCRIPTION OF MAP UNITS


















	Waste dumps and tailings ponds (Quaternary) —Outer limit of dumps and tailings ponds in general area of Newmont Gold Mining Company and Barrick Gold Corporation mining facilities as of late 1998 near Meikle Mine and as of early 2000 near Dee Mine
	Younger alluvium and fanglomerate deposits (Quaternary) —Unconsolidated gravel and sand deposits. Includes some fanglomeratic deposits near lower reaches of major drainages near southern boundary of east part of area
	Talus deposits and (or) landslide deposits (Qls) (Quaternary)
	Slope-wash deposits (Quaternary)
	Older alluvium (Quaternary)
	Gravel deposits (Quaternary and Tertiary)
	Carlin Formation of Regnier (1960) (Miocene) —In this area includes:
	Fanglomerate deposits, unconsolidated
	Silts and sands, mostly unconsolidated
	Silts and sands, mostly unconsolidated, sedimentary breccia, and abundant air-fall tuff (15.1 to 14.4 Ma, Fleck and others, 1998)
	Tuff, partly welded, and minor silts and sands, mostly unconsolidated
	Undivided
	Porphyritic rhyolite and vitrophyre (north of Antelope Creek) and peralkaline rhyolite (west of Boulder Creek) (Miocene) —Same as informally named Craig rhyolite of Bartlett and others (1991). Approximately 15.1 Ma (Fleck and others, 1998)
	Altered dikes (Jurassic?) —Dikes are probably correlative with greater than 147-Ma informally named Arturo dike in the Dee Mine (Theodore and others, 1998). In general area of Queen, Rossi, and Tara Mines, many clay-altered dikes show microfabrics suggestive of spessartite lamprophyre
	Strathearn Formation of Dott (1955) (Permian and Pennsylvanian) —Generally highly resistant, thick, drab gray brown to reddish brown ledges or rubble strewn slopes of mostly chert-pebble-conglomerate make up foreland clastic deposits in this area—derived, in part, from reactivated highlands of Antler orogeny of Roberts and others (1958). Near base commonly includes chert pebble conglomerate as much as 200 m thick, some including interbedded highly fusulinid-rich lenses of peloidal grainstone. Basal strata overlain by as much as 30 m of gray to light gray limestone, and approximately 300 m of dolomitic siltstone. Upper parts of formation also onlap quartzarenite of Vinini Formation in upper plate of Coyote thrust
	Upper plate of Squaw Creek thrust —This tectonic package of rocks, considered to have an imbricate structural relation with underlying packages, consists of a number of structural blocks whose bedding attitudes are oriented at high angles to underlying, largely homoclinal, quartzarenite that makes up lower plate. In this area includes:
	Siltstone unit of Vinini Formation of Merriam and Anderson (1942) (Ordovician) —Poorly exposed, light gray to gray-brown, mostly siliceous feldspathic siltstone. Includes some size-specific rounding of larger detrital grains of quartz. Angular grains of K-feldspar make up as much as approximately 25 volume percent of rock. Unit also includes some olive green chert, brown shale, and fine-grained sandstone
	Quartzarenite of Vinini Formation (Ordovician)
	Chert, undivided of Vinini Formation (Ordovician) —Generally poorly exposed, light gray to dark gray, well-bedded chert. Narrow carbonaceous seams present along parting surfaces of bedding, and some chert microbrecciated during diagenesis and further cemented by infilling of additional chert
	Upper plate of Coyote thrust —Coyote thrust emplaced during late Late Pennsylvanian and middle Early Permian. Thrust plate as much as approximately 800 m thick to the north-northwest of Beaver Peak, but thins dramatically to the west where the plate is approximately 150 m thick

Figure 2—"Description of map units" (cont'd.)

near the northwest corner of the Santa Renia Fields quadrangle. In this area includes:



Quartzarenite of Vinini Formation (Ordovician)—Resistant moderately rounded ridges of mostly massive orange-brown- to drab ochre-brown-weathering quartzarenite. Quartzarenite typically mature and made up of medium-grained, well-sorted fabrics of monocrystalline quartz grains showing size-specific rounding. Quartzarenite commonly is intensely recrystallized to white sucrose hornfels near Coyote thrust where unit near thrust locally contains abundant brick-red Fe-oxide minerals and breccia. Base of formation not exposed

Upper plate of Little Jack thrust—Little Jack thrust inferred to be imbricate structure related to Coyote thrust. Best exposures of Little Jack thrust with underlying unit are northwest and northeast of abandoned Coyote barite mine. In this area includes:



Chert mélange unit of Slaven Chert of Gilluly and Gates (1965) (Devonian)—Commonly ridge-forming rubbly exposures that include chaotic depositional and intensely deformed tectonic fabrics including structurally transposed lithologic layering controlled by closely-spaced foliation surfaces. Unit presumably correlative with Late Devonian sedimentological breccia and barite breccia unit of Slaven Chert in Shoshone Range (C.T. Wrucke, oral commun., 1999) on the basis of Devonian conodonts in limestone interbed in northwest part of area (Theodore and others, 1998) and Devonian radiolaria in and near Coyote barite mine

Upper plate of Roberts Mountains thrust—In this area includes:



Siliceous rocks, undivided (Devonian, Silurian, and (or) Ordovician)—Mostly black Ordovician chert and shale in general area of Queen and Dee Mines, but includes undivided Slaven Chert, Silurian Elder Sandstone of Gilluly and Gates (1965), and Ordovician chert, shale, and siltstone near Ren and Meikle Mines



Slaven Chert (Devonian)—Generally resistant ridge-forming, homoclinal sequence of commonly north-dipping, relatively thin, gray to black chert beds in rhythmically-stratified sequences. Rocks characterized by planar bedding surfaces that are tightly folded along numerous outcrop-scale fold axes



Elder Sandstone of Gilluly and Gates (1965) (Silurian)—Slope-forming, generally olive gray-green, dolomitic and calcareous siltstone and dark gray shale. Locally also includes some interbeds of chert as well as prominent sequence of chert near base probably correlative with Early Silurian (Llandoveryan) Cherry Spring chert of Noble and others (1997) in the northern Adobe Range.



Chert and shale unit of Vinini Formation (Ordovician)—Mostly dark gray to black shale and chert, including some argillite, that crop out near southeast corner of area and comprise basal formation of homoclinal sequence of formations that dip shallowly (10 to 15°) to north

Lower plate of Roberts Mountains thrust—In this area includes:



Lower plate rocks, undivided (Devonian, Silurian, and Ordovician)—Includes mostly massive gray micrite and oolitic packstone of Silurian and Devonian Roberts Mountains Formation of Merriam and Anderson (1942) at Dee Mine, mostly thin-bedded siliceous argillite and micritic limestone of Devonian Rodeo Creek unit near Dee Mine, and small exposures of quartz-dolomitic wackestone of Ordovician Hansen Creek Formation near Capstone-Bootstrap Mine



Contact



High-angle fault—Bar and ball on downdropped block. Long-dashed where approximately located; short-dashed where inferred; dotted where concealed



Thrust fault—Sawteeth on upper plate. Long-dashed where approximately located; short dashed where inferred dotted where concealed



Fossil locality



Ar-Ar sample

Figure 2—Cont'd.

CORRELATION OF MAP UNITS

